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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/865,978	05/25/2001	Masood Mortazavi	SUN1P820/P5884	6345

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BEYER WEAVER & THOMAS LLP

P.O. BOX 70250

OAKLAND, CA 94612-0250

EXAMINER

EL HADY, NABIL M

ART UNIT	PAPER NUMBER
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2152

DATE MAILED: 02/28/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/865,978	Applicant(s) MORTAZAVI ET AL.	
	Examiner Nabil M. El-Hady	Art Unit 2152	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 23 January 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-44 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-44 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

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1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after allowance or after an Office action under *Ex Parte Quayle*, 25 USPQ 74, 453 O.G. 213 (Comm'r Pat. 1935). Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, prosecution in this application has been reopened pursuant to 37 CFR 1.114. Applicant's submission filed on 11/23/2005 has been entered.

2. Claims 1-44 are pending in this application.

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 16-24 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The following have no antecedent basis:

a) " the computer readable medium", claim 16, line 2.

5. Claim 31 is rejected under 35 U.S.C. 103(a) as being unpatentable over Applicant Admitted Prior Art, hereinafter "AAPA".

6. As to claim 31, AAPA discloses a computer program product for an enterprise environment associated with a computing system, the computer program product comprising an asynchronous proxy for receiving a request from a first object-oriented component residing at a

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first server to invoke a second object-oriented component residing at a second server (spec., p2, lines 4-12), an exception listener object-oriented component coupled to the asynchronous proxy (interface block, spec., p3, lines 18-23), wherein the exception listener uses a scope corresponding to the request to handle exceptions associated with the invocation (foo as an identifier or scope, spec., p3, line 8).

7. AAPA does not specifically disclose that the exception listener is stateless and is operable to handle a plurality of types of exceptions from a plurality of different components. However, using one reusable exception listener that can handle a plurality of types of exceptions from a plurality of different components, i.e. stateless, is always preferable than registering a new exception listener for each component and each type. It would have been obvious to one skilled in the art at the time of the invention to adopt the stateless design concept as a design choice in order to enhance the speed of process execution.

8. Claims 10 , 25, 38, and 44 are rejected under 35 U.S.C. 103(a) as being unpatentable over Applicant Admitted Prior Art, hereinafter "AAPA" in view of Reynolds et al. (Threads: A programming Construct for Reliable real-time Distributed Computing), hereinafter "Reynolds". Or in view of Stewart et al., Distributed Exception Handling in CORBA-Based C++ Applications, hereinafter "Stewart".

9. Reynolds and Stewart are cited by the applicant in a previous IDS paper.

10. As to claim 10, the claim is rejected for the same reasons as claim 31 above. In addition, AAPA discloses a computer-implemented method for a first object-oriented component to

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invoke a second object-oriented component asynchronously in an object-oriented environment, the computer-implemented method comprising transmitting a request from the first object-oriented residing at a first server to invoke the second object-oriented component residing at a second server, the first and second object-oriented components operating in environments allowing direct invocation of the second component by the first component (spec., p2, lines 4-23, and p3, lines 32-33),

11. Although disclosing the asynchronous proxy (spec., p2, line 7), AAPA does not disclose registering an exception listener object-oriented component on the asynchronous proxy which is associated with the second component. However, the advantages of having the asynchronous proxy where the exception listener is registered be associated with the second component that is to be invoked is clearly obvious to one skilled in the art at the time of the invention. Stewart discloses having the asynchronous proxy where the exception listener is registered be associated with the second component (page 39, server-side exception handling). It would have been obvious to one skilled in the art at the time of the invention to combine the teachings of AAPA and Stewart because under no circumstances should the server (where the second component is) raise an "internal" exception to the client (where the first component is). This introduces an information leak and burdens the client with internal details of the server (page 39, server-side exception handling).

12. Reynolds also discloses registering an exception listener object-oriented component on the asynchronous proxy (sec. 5.2, 2nd parag.).

13. Claim 25 is rejected for the same reasons as claims 31 and 10 above.

14. Claim 38 is rejected for the same reasons as claims 31 and 10 above.

15. Claim 44 is rejected for the same reasons as claims 31 and 10 above.

16. Claims 1, 16 and 43 are rejected under 35 U.S.C. 103(a) as being unpatentable over Applicant Admitted Prior Art, hereinafter "AAPA" in view of Reynolds et al. (Threads: A programming Construct for Reliable real-time Distributed Computing), hereinafter "Reynolds".

17. As to claim 1, AAPA discloses a computer-implemented method for a first component to invoke a second component asynchronously in an object-oriented computing environment (spec., p 2, lines 4-23, and p3, lines 32-33), the computer-implemented method comprising receiving a request from a first object-oriented component to invoke a second object-oriented component (spec., p 2, lines 4-12); maintaining the scope of the received request (inherent in spec. p2, line 7, through an asynchronous proxy or a stub, where a scope of the request, e.g., an identifier for the invoked component must be maintained), providing a thread for identifying the received request and invoking the second component (spec., p2, lines 21-22).

18. Although disclosing exceptions handling in asynchronous CORBA (spec. p3, lines 10-25) which may be used with a thread, AAPA does not specifically disclose the thread identifies an exception listener object-oriented component for handling exceptions associated with the invocation of the second component. Reynolds, on the other hand, discloses managing the exceptions that can occur in the course of an operation invocation using an exception block facility that works across invocation boundaries (sec. 3.1 Invocation, 2nd parag., sec. 5, 2nd

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parag.). Reynolds discloses an exception listener object-oriented component for handling exceptions associated with the invocation of the second component (Sec. 5, 2nd parag., Sec. 5.1, 1st parag., and Sec. 5.2,). Reynolds discloses that all invocation (request and reply) parameters are passed by value on the thread stack (sec. 3.2. 2nd parag.), and when an exception of a particular type occurs, control of the thread is moved to the most recently registered handler for that type of exception (sec. 5.2, 2nd parag.). It would have been obvious to one skilled in the art at the time of the invention to combine the teachings of AAPA and Reynolds because Reynolds providing of an exception handling object-oriented component would complement the invocation nature of a component disclosed by AAPA and allow the exception object to work well with a typical distributed environment. In addition, exception handling would provide the programmer with a means of coping with the asynchronous exceptions that commonly occur within large, complex distributed real-time system (see, Reynolds, Sec. 5.1).

19. Claim 16 is rejected for the same reasons as claim 1 above.

20. Claim 43 is rejected for the same reasons as claim 1 above.

21. Claims 1, 3-9, 16, 18-24, and 43 are further rejected under 35 U.S.C. 103(a) as being unpatentable over iplanet Application Server 6.0 White Paper, Technical Reference Guide, Sun Microsystems, May 25,2000, hereafter "Sun" in view of Reynolds.

22. Sun is cited by the applicant in a previous IDS paper.

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23. As per claims 1, 10, 16, 25, 31, 38, 43, and 44, Sun discloses a computer-implemented method for a first component to invoke a second component asynchronously in an object-oriented computing environment, the computer-implemented method comprising receiving a request from a first component to invoke a second component (e.g. page 23, iplanet Application Server diagram); maintaining the scope of the received request (page 23, lines 1-5), providing a thread for identifying the received request and invoking the second component (page 26, lines 1-15).

24. Sun does not explicitly disclose the thread identifies an exception listener for handling exceptions associated with the invocation of the second component. Reynolds, on the other hand, discloses managing the exceptions that can occur in the course of an operation invocation using an exception block facility that works across invocation boundaries (sec. 3.1 Invocation, 2nd parag., sec. 5, 2nd parag.). Reynolds discloses an exception listener object-oriented component for handling exceptions associated with the invocation of the second component (Sec. 5, 2nd parag., Sec. 5.1, 1st parag., and Sec. 5.2,). Reynolds discloses that all invocation (request and reply) parameters are passed by value on the thread stack (sec. 3.2. 2nd parag.), and when an exception of a particular type occurs, control of the thread is moved to the most recently registered handler for that type of exception (sec. 5.2, 2nd parag.). It would have been obvious to one skilled in the art at the time of the invention to combine the teachings of Sun and Reynolds because Reynolds providing of an exception handling object-oriented component would complement the invocation nature of a component disclosed by Sun and allow the exception object to work well with a typical distributed environment. In addition, exception handling would provide the programmer with a means of coping with the

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asynchronous exceptions that commonly occur within large, complex distributed real-time system (see, Reynolds, Sec. 5.1).

25. As to claims 3, 12, 18, 27, 33, and 40, Sun discloses the request is associated with no application specific exceptions (e.g. page 91, "Enterprise Connectors).

26. As to claims 4, 13, 19, 28, 34, and 41, Sun discloses the first and second components are associated with separate servers (e.g. page 9, "improved Performance, Scalability and Reliability).

27. As to claims 5, 14, 20, 29, 35, and 42, Sun discloses the first and second components are Enterprise Java Bean components (e.g. page 12, "Application Model").

28. As to claims 6, 15, 21, 30, and 36, Sun, discloses the first and second components are associated with a container (e.g. page 28, "Services Hosted by KJS Only", EJB container).

29. As to claims 7 and 22, Sun discloses placing the request from the first component in a queue (e.g. page 26, lines 1-11).

30. As to claims 8, 23, and 37, Sun discloses the worker thread dequeues the received request after receiving a transaction commit signal from the container (e.g. page 44, "How the Servlet Engine Allocates Resources).

31. As to claims 9 and 24, Reynolds discloses the exception Listener receives the

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exception and the scope of the exception. (Sec. 5.1, Exception Specification).

32. As to claims 2, 17, 32, and 39, Sun and Reynolds do not explicitly disclose the request has a return type of void. However, it is inherent in object-oriented programming that an asynchronous method interface would have a return type "void", as no return is expected (see, for example, spec., p3, lines 18-22).

33. As to claims 11 and 26,, Sun and Reynolds do not explicitly disclose the asynchronous proxy has the same type as the second component. However, it is inherent in object-oriented programming that an asynchronous proxy objects and a second component object that are associated together should be of the same type.

34. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Dievendorff et al. (US 6,425,017); Schofield (US 6,253,252); Lazar et al. (US 5,953,316); Codella et al. (US 6,804,818); Travis, Jr, et al. (US 5,619,710); Sudarshan et al. (US 2002/0004848); Hudson et al. (US 6,671,707); Glass (US 6,389,452); Ims et al. (US 2002/0091533); Dieterich et al. (US 2002/0046230); and Hamilton et al. (EP 0767428 A1).


35. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Nabil M. El-Hady whose telephone number is (571) 272-3963. The examiner can normally be reached on 9:00 - 4:00.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bunjob Jaroenchonwanit can be reached on (571) 272-3913. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

February 14, 2006


Nabil El-Hady, Ph.D, M.B.A.
Primary Examiner
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